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## (54) INFORMATION PROCESSOR

(57)Abstract:

PROBLEM TO BE SOLVED: To set plural recognized magnitude values and to perform respective invocation processes matching the respective set values when an earthquake exceeding the respective set values takes place.

SOLUTION: This information processor is equipped with an earthquake sensor 1 which discriminates different earthquake magnitudes, a processor 2 which performs maintenance processing for various data information according to the output of the earthquake sensor 1, and a storage part 10 which has an area use for the maintenance processing performed by the processor 2. The earthquake sensor 1 is equipped with a magnitude read part 2 which detects and outputs a quake of an earthquake and a quake perception part 4 which perceives the magnitude of the quake of the earthquake from the output of the magnitude read part 3 and discriminates whether a recognized magnitude as a value at which an alarm is given is exceeded. The earth perception part 4 is equipped with a recognized magnitude setting part 5 which selects as arbitrary number of plural earthquake magnitudes and stores values set from outside as recognized magnitudes for alarming, and a perception signal output part 6 which outputs an earthquake perception signal once the quake perception part 4 judges that it exceeds the recognized magnitude.
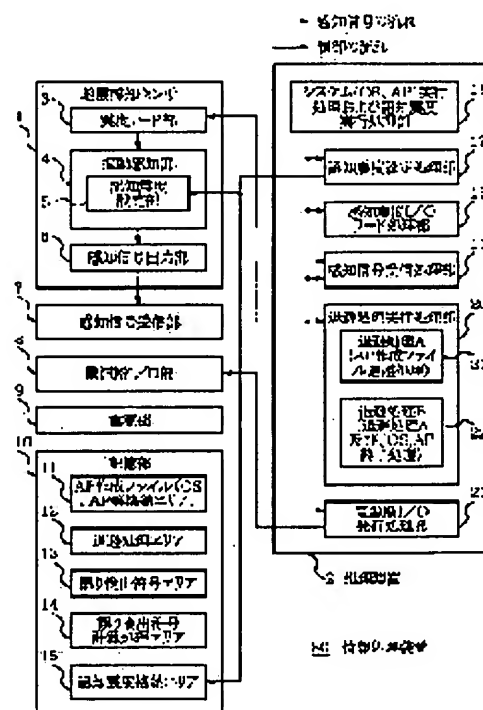
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CLAIMS

[Claim(s)]
[Claim 1] The information processor characterized by having an executive operation means to perform availability processing of said various data information based on the output of the earthquake sensing sensor which identifies two or more earthquake seismic intensity, and said earthquake sensing sensor in the information processor which connects with an external device and an input device, delivers and receives various data information, and processes said various data information, and a storage means to use it for the availability processing which said executive operation means performs.
[Claim 2] The seismic intensity lead section which said earthquake sensing sensor detects vibration of an earthquake, and outputs as an electrical signal, The oscillating sensor which identifies that it is over the cognitive seismic intensity which is the value which should sense the magnitude of vibration of an earthquake from the electrical signal which said seismic intensity lead section outputs, and should emit an alarm, The information processor according to claim 1 characterized by having the sensing signal output part which will output an earthquake sensing signal if it identifies that said oscillating sensor is over said cognitive seismic intensity.
[Claim 3] The information processor according to claim 2 characterized by including the cognitive seismic intensity setting section which chooses the number of arbitration from two or more earthquake seismic intensity into said oscillating sensor, and is set up and memorized from the outside as said cognitive seismic intensity.
[Claim 4] The information processor according to claim 1 characterized by the contents of the availability processing which said executive operation means performs having different contents of processing for every cognitive seismic intensity of the value chosen from two or more earthquake seismic intensity.
[Claim 5] The information processor according to claim 1 characterized by having the function which intercepts evacuation of an execution file, and the power source of equipment as contents of the availability processing which said executive operation means performs.
[Claim 6] The information processor according to claim 3 characterized by guaranteeing the data set as a seismic intensity sensing sensor by performing count and the comparison check of error detecting code to said cognitive seismic intensity which said executive operation means preserves to coincidence for every evacuation of an execution file which said executive operation means performs, and starting of equipment.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] About an information processor, especially this invention relates to the information processor which performs availability processing of various data information, and protection of equipment, when vibration of an earthquake is detected.
[0002]
[Description of the Prior Art] Even if the conventional information processor detected vibration of an earthquake, there was little what performs availability processing of various data information and protection of equipment, and there was much what does not almost have a cure. There are some which are shown as JP,57-211626,A as an example in [little] this. In the electronic computer system of uninhabited operation, this equipment memorizes the contents data of each terminal units CR, PR, and MD to Storage ME while the earthquake sensor MS will carry out the interruption input of that sensing output at a central processing unit CPU and will interrupt business temporarily, if an earthquake occurs during the usual operating activation. The power-source cutoff section PWC 3 of power control PWC is operated after that, and the electric supply to each terminal units CR, PR, and MD is disconnected. The power-source cutoff section PWC 1 is operated after that, and the electric supply to the central processing unit CPU itself is intercepted. If the electric supply to the after [predetermined time of] central processing unit CPU is recovered and there are abnormalities in investigation about own operating status, the power-source cutoff section PWC 2 will be operated, and power-source Rhine will be cut completely. If operating status is investigated and it is abnormal after recovering the electric supply to each terminal units CR, PR, and MD, if normal, the power source of a central processing unit CPU will be intercepted completely.
[0003]
[Problem(s) to be Solved by the Invention] Since an earthquake sensor senses an earthquake only on the cognitive seismic scale decided uniquely and does not support two or more seismic intensity, the conventional information processor mentioned above has the trouble that protection of the storage in the occurrence of an earthquake weaker than the trouble that processing according to seismic intensity cannot be performed or the cognitive seismic intensity of arbitration, and a system cannot be performed. Furthermore, since cognitive seismic intensity of the earthquake sensor which senses an earthquake cannot be changed easily, the trouble of being difficult has also given anti-earthquake procedures finely for every equipment.
[0004] The purpose of this invention is to offer the information processor which can perform each evacuation processing suitable for each set point, when two or more cognitive seismic intensity values are set up and the earthquake beyond each set point occurs.
[0005]
[Means for Solving the Problem] The information processor of this invention is the configuration of having the earthquake sensing sensor which identifies two or more earthquake seismic intensity, an executive operation means to perform availability processing of said various data information based on

the output of said earthquake sensing sensor, and a storage means to use it for the availability processing which said executive operation means performs, in the information processor which connects with an external device and an input device, delivers and receives various data information, and processes said various data information.

[0006] The seismic intensity lead section to which said earthquake sensing sensor detects vibration of an earthquake, and, as for the information processor of this invention, outputs it as an electrical signal, The oscillating sensor which identifies that it is over the cognitive seismic intensity of the value which should emit the alarm which senses the magnitude of vibration of an earthquake from the electrical signal which said seismic intensity lead section outputs, and is chosen from two or more earthquake seismic intensity, and which is defined beforehand, If it identifies that said oscillating sensor is over said cognitive seismic intensity, you may have the sensing signal output part which outputs an earthquake sensing signal.

[0007] The information processor of this invention may also contain the cognitive seismic intensity setting section which sets up and memorizes said cognitive seismic intensity from the outside in said oscillating sensor.

[0008] The information processor of this invention may have different contents of processing for every cognitive seismic intensity of the value as which the contents of the availability processing which said executive operation means performs were chosen from two or more earthquake seismic intensity.

[0009] The information processor of this invention may have the function which intercepts evacuation of an execution file, and the power source of equipment as contents of the availability processing which said executive operation means performs.

[0010] The information processor of this invention may guarantee the data set as a seismic intensity sensing sensor by performing count and the comparison check of error detecting code to said cognitive seismic intensity which said executive operation means preserves to coincidence for every evacuation of an execution file which said executive operation means performs, and starting of equipment.

[0011] [operation] this invention -- the inside of an information processor -- an earthquake sensing sensor (an earthquake (vibration) sensor --) The cognitive seismic intensity setting section (a multi-statement is also possible), the lead section which can lead the sensed seismic intensity by I/O, the hardware which generates the signal which notifies sensing, and the hardware which performs power off of equipment by I/O hardware control, The processing which sets a cognitive seismic intensity value as a sensor at the storage section (that a multi-statement is also possible, for example, setting level 1, setting level 2 grade) (cognitive seismic intensity setting processing), Each evacuation processing performed with the area (cognitive seismic intensity storage area) and the setting level of cognitive seismic intensity setting processing which store the set-up cognitive seismic intensity (for example, when seismic intensity has been sensed by setting level 1) When seismic intensity has been sensed on the processing and the setting level 2 which perform only preservation of a file in preparation with each application (AP), by evacuation processing of level 1 and the processing which performs closing of a system (each -- AP and OS), power off processing of an information processor, and error detecting code area (area which stores the value with which the cognitive seismic intensity storage area was calculated by error detecting code computation) When equipment has sensed an impact and vibration strong [working and an earthquake sensing sensor / more than the seismic intensity set up by cognitive seismic intensity setting processing], an interrupt generates the signal from a sensing signal output part by notifying a sensing signal receive section. The seismic intensity which the earthquake sensing sensor has sensed within interruption processing is led by I/O, control moves to evacuation processing of the system according to the sensed seismic intensity, and AP creation file of an information processor when an earthquake occurs by performing evacuation processing according to setting level, and protection of systems (OS, AP, etc.) are carried out by each evacuation processing.

[0012] When a user changes a cognitive seismic intensity value by cognitive seismic intensity setting processing, while updating the set point of the cognitive seismic intensity storage area in storage circles, a cognitive seismic intensity storage area is calculated by error detecting code computation, and the computed error detecting code is stored. Moreover, the data of the cognitive seismic intensity storage

area of storage circles at the time of equipment starting can be guaranteed by error detecting code computation of storage circles being performed, rising with the error detecting code of a cognitive seismic intensity storage area for every starting of equipment, and carrying out the comparison check of the count result at the time.

[0013]

[Embodiment of the Invention] Next, the gestalt of operation of this invention is explained with reference to a drawing.

[0014] Drawing 1 is the block diagram showing the gestalt of operation of the 1st of this invention.

[0015] The earthquake sensing sensor 1 by which this invention identifies two or more earthquake seismic intensity in an information processor 30, The processor 2 which performs availability processing of various data information based on the output of the earthquake sensing sensor 1, It has the sensing signal receive section 7 which receives the signal sent from the earthquake sensing sensor 1, the power off I/O section 8 which receives the signal of the power off sent from a processor 2, the power supply section 9 which is the power source of equipment, and the storage section 10 with the area used for the availability processing which a processor 2 performs.

[0016] The seismic intensity lead section 3 which the earthquake sensing sensor 1 detects vibration of an earthquake, and is outputted as an electrical signal, The oscillating sensor 4 which identifies that it is over the cognitive seismic intensity which is the value which should sense the magnitude of vibration of an earthquake from the electrical signal which the seismic intensity lead section 3 outputs, and should emit an alarm, The cognitive seismic intensity setting section 5 which memorizes the value set up from the outside as cognitive seismic intensity which should choose the number of arbitration from two or more earthquake seismic intensity into the oscillating sensor 4, and should emit an alarm, Discernment of that the oscillating sensor 4 is over cognitive seismic intensity is equipped with the sensing signal output part 6 which receives a notice and outputs an earthquake sensing signal.

[0017] Moreover, AP creation file 11 which is a storing file which stores working AP creation file, OS, AP, etc. in the storage section 10 (storage areas, such as OS and AP), The evacuation processing area 12 to which data are evacuated temporarily by evacuation processing for every setting level performed with the setting level of cognitive seismic intensity setting processing or the cognitive seismic intensity set point, The error detecting code area 13 which stores the calculated value which offers the data guarantee of an exclusive OR etc., It has the cognitive seismic intensity storage area 15 which stores the setting seismic intensity value data in cognitive seismic intensity setting processing, and the error detecting code computation area 14 which stores the error detecting code computation means against the setting seismic intensity value data stored in the cognitive seismic intensity storage area 15.

[0018] Furthermore, system (OS and AP) executive operation and cognitive seismic intensity executive operation 16 which manage the executive operation of each part in a processor 2 in a processor 2, The cognitive seismic intensity setting processing section 17 which sets a cognitive seismic intensity value as the cognitive seismic intensity setting section 5 in the earthquake sensing sensor 1 (that a multi-statement is also possible, for example, setting level 1, setting level 2 grade), The sensing seismic intensity I/O lead processing section 18 which performs processing which leads the seismic intensity which the earthquake sensing sensor 1 has sensed by I/O, The processing sensing signal reception section 19 which performs interruption generated by the sensing signal receive section 7, Each evacuation processing performed with the setting level of the cognitive seismic intensity setting processing section 17 (for example, when seismic intensity has been sensed by setting level 1) The evacuation processing A21 which evacuates only preservation of a file in preparation with each application (AP), with the evacuation processing executive operation section 20 which performs evacuation processing of level 1, and evacuation processing B22 which performs closing of a system (each -- AP and OS), when seismic intensity has been sensed on the setting level 2 When evacuation processing is performed, it has the power off I/O issue processing section 23 which publishes processing which performs power off of a power supply section 9 by the power off I/O section 8 of an information processor 30.

[0019] Next, actuation is explained.

[0020] <u>Drawing 2</u> is the flow chart of setting processing of the cognitive seismic intensity to the earthquake sensing sensor of this invention. The name and sign of <u>drawing 1</u> are used for explanation.

[0021] The <u>drawing 2</u> part Fig. (A) shows the case where the system (OS, AP) executive operation 16 performs working, and a user changes setting seismic intensity. First, when distinguishing and carrying out whether a cognitive seismic intensity setup is changed at step (it is described as Following S) 1, and the cognitive seismic intensity setting processing section 17 is started by S2, cognitive seismic intensity setting processing is performed and a user carries out setting modification of setting seismic intensity at S3, the set point is stored in the cognitive seismic intensity storage area 15 in the storage section 10 by S4. Then, at the time of termination of setting processing, it is calculated by error detecting code computation means by which the calculated value which should be stored in the error detecting code area of the cognitive seismic intensity set point by S5 is stored in the error detecting code computation area 14, and calculated value is stored in error detecting code 13 by S6.

[0022] Moreover, the <u>drawing 2</u> part Fig. (B) shows the actuation at the time of performing power-source starting of an information processor 30. First, if power-source starting is performed by S7, error detecting code computation of the cognitive seismic intensity set point in the storage section 10 will be performed by S8. The comparison check of the calculated value and the value already stored in the error detecting code area 13 is carried out, and a comparison result is distinguished by S10. When normal The value of the setting seismic intensity value data stored in the cognitive seismic intensity storage area 15 by S11 is set as the cognitive seismic intensity setting section 5 of the earthquake sensing sensor 1 by the cognitive seismic intensity setting processing section 17. Moreover, when the distinction result of S12 is judged to be unusual, a user is notified of abnormalities having occurred to the data of the cognitive seismic intensity storage area 15 in S12, and the cognitive seismic intensity setting processing section 17 resets by S13.

[0023] In addition, it can process, without needing a hard disk for the cognitive seismic intensity comparison check and setting processing for every power-source starting of an information processor 30 by having the evacuation processing area 12, the error detecting code area 13, the error detecting code computation area 14, and the cognitive seismic intensity storage area 15 in BUM of the storage section 10.

[0024] Next, actuation from earthquake sensing when an earthquake (vibration) occurs at the time of actuation of system (OS-AP) executive operation and the cognitive seismic intensity executive operation 16 to the power off of a power supply section is explained.

[0025] When the system has sensed the vibration more than the seismic intensity on which the oscillating sensor 4 of working and the earthquake sensing sensor 1 was set as the cognitive seismic intensity setting section 5, a sensing signal is transmitted to the sensing signal receive section 7 from the sensing signal output part 6, and interruption etc. notifies that there was an earthquake (vibration) to the sensing signal reception section 19. If the sensing signal reception section 19 operates, next, control moves to the sensing seismic intensity I/O lead processing section 18, and the seismic intensity data generated from the seismic intensity lead section 3 in the earthquake sensing sensor 1 are led. Control moves from the led earthquake seismic intensity to the evacuation processing activation section 20 which suited each setting seismic intensity value (level). In the evacuation processing A21 (setting level which power off does not perform), only shunting of AP creation file is performed. In being the evacuation processing B22 (setting level which needs to perform the evacuation processing A21 and system power **) After performing the evacuation processings A21 and OS and AP post process, I/O issue to the power off I/O section 8 will be performed by the power off I/O issue processing section 23, and power off of a power supply section 9 will be performed.

[0026]

[Effect of the Invention] The earthquake sensing sensor by which this invention identifies two or more earthquake seismic intensity as explained above, An executive operation means to perform availability processing of various data information based on the output of an earthquake sensing sensor, The seismic intensity lead section which it has a storage means to use it for the availability processing which an executive operation means performs, and an earthquake sensing sensor detects vibration of an

earthquake further, and is outputted as an electrical signal, The oscillating sensor which identifies that it is over the cognitive seismic intensity of the value which should emit the alarm which senses the magnitude of vibration of an earthquake from the electrical signal which the seismic intensity lead section outputs, and is chosen from two or more earthquake seismic intensity, and which is defined beforehand, By having the sensing signal output part which will output an earthquake sensing signal if it identifies that the oscillating sensor is over cognitive seismic intensity Two or more seismic intensity setup depended on cognitive seismic intensity setting processing is attained, and there is effectiveness that evacuation processing which suited each seismic intensity (setting level) can be performed by leading generating seismic intensity from the seismic intensity lead section. Moreover, since error detecting code is also calculated and changed whenever a setting change of the set point of a cognitive seismic intensity storage area is made by cognitive seismic intensity setting processing, there is also effectiveness that the set point set as an earthquake sensibility sensor can be data guaranteed, by carrying out a comparison check with the value calculated by the error detecting code computation of a cognitive seismic intensity storage area for every information-processor starting.

[Translation done.]

(54)【発明の名称】 情報処理装置

(57)【要約】

【課題】複数の認知震度値を設定し、各設定値以上の地震が発生した場合にはそれぞれの設定値に合った各退避処理を行うこと。

【解決手段】本発明の情報処理装置は、複数の地震震度を識別する地震感知センサ1と、地震感知センサ1の出力に基づき各種データ情報の保全処理を行う処理装置2と、処理装置2が行う保全処理に使用するエリアを持つ記憶部10とを備える。地震感知センサ1は、地震の振動を検出し出力する震度リード部3と、震度リード部3の出力から地震の振動の大きさを感知し警報を発すべき値である認知震度を越えていることを識別する振動感知部4と、振動感知部4内には複数の地震震度の中から任意の個数を選択して警報を発すべき認知震度として外部から設定した値を記憶する認知震度設定部5と、振動感知部4が認知震度を越えていることを識別すると地震感知信号を出力する感知信号出力部6とを備える。
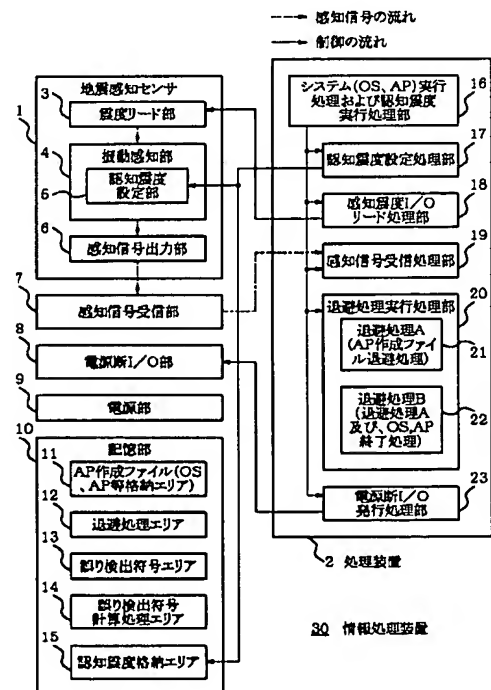
【特許請求の範囲】
【請求項1】　外部装置および入力装置と接続し各種データ情報を授受し前記各種データ情報の処理を行う情報処理装置において、複数の地震震度を識別する地震感知センサと、前記地震感知センサの出力に基づき前記各種データ情報の保全処理を行う実行処理手段と、前記実行処理手段が行う保全処理に使用する記憶手段とを有することを特徴とする情報処理装置。
【請求項2】　前記地震感知センサが地震の振動を検出し電気信号として出力する震度リード部と、前記震度リード部の出力する電気信号から地震の振動の大きさを感知し警報を発すべき値である認知震度を越えていることを識別する振動感知部と、前記振動感知部が前記認知震度を越えていることを識別すると地震感知信号を出力する感知信号出力部とを備えることを特徴とする請求項1記載の情報処理装置。
【請求項3】　前記振動感知部内に複数の地震震度の中から任意の個数を選択し前記認知震度として外部から設定し記憶する認知震度設定部を含むことを特徴とする請求項2記載の情報処理装置。
【請求項4】　前記実行処理手段が行う保全処理の内容が複数の地震震度の中から選択された値の認知震度ごとに異なる処理内容を持つことを特徴とする請求項1記載の情報処理装置。
【請求項5】　前記実行処理手段が行う保全処理の内容として実行ファイルの退避と装置の電源を遮断する機能を有することを特徴とする請求項1記載の情報処理装置。
【請求項6】　前記実行処理手段が行う実行ファイルの退避および装置の立ち上げごとに前記実行処理手段が同時に保全する前記認知震度に対し誤り検出符号の計算および比較チェックを行うことにより、震度感知センサに設定されるデータの保証を行うことを特徴とする請求項3記載の情報処理装置。
【発明の詳細な説明】
【0001】
【発明の属する技術分野】本発明は情報処理装置に関し、特に地震の振動を検出すると各種データ情報の保全処理および装置の保護を行う情報処理装置に関する。
【0002】
【従来の技術】従来の情報処理装置は、地震の振動を検出しても各種データ情報の保全処理および装置の保護を行うものは少なく、ほとんど対策のないものが多かった。この少ない中の一例として、例えば、特開昭57－211626号公報として示されるものがある。この装置は、無人稼働の電子計算機システムにおいて、通常の業務実行中に地震が発生すると、地震センサMSがその感知出力を中央処理装置CPUに割込み入力し、業務を一時中断すると共に、各端末装置CR、PR，MDの内容データを記憶装置MEに記憶する。その後電源制御装

置PWCの電源遮断部PWC3を作動して各端末装置CR、PR、MDへの給電を切断する。その後電源遮断部PWC1を作動して中央処理装置CPU自身への給電を遮断する。所定時間後中央処理装置CPUへの給電を回復し自身の稼働状態を調べ異常があれば電源遮断部PWC2を作動して電源ラインを完全に切断する。異常がなければ各端末装置CR、PR、MDへの給電を回復した後稼働状態を調べ、異常があれば中央処理装置CPUの電源を完全に遮断するものである。
【0003】
【発明が解決しようとする課題】上述した従来の情報処理装置は、地震センサが一義的に決めた認知震度でのみ地震を感知し、複数の震度に対応していないので、任意の震度に応じた処理ができないという問題点や認知震度より弱い地震発生での記憶装置およびシステムの保護ができないという問題点がある。さらに、地震を感知する地震センサの認知震度を簡単に変更することができないので装置ごとにきめ細かく地震対策を施すことが困難であるという問題点もある。
【0004】本発明の目的は、複数の認知震度値を設定し、各設定値以上の地震が発生した場合にはそれぞれの設定値に合った各退避処理を行うことが可能な情報処理装置を提供することにある。
【0005】
【課題を解決するための手段】本発明の情報処理装置は、外部装置および入力装置と接続し各種データ情報を授受し前記各種データ情報の処理を行う情報処理装置において、複数の地震震度を識別する地震感知センサと、前記地震感知センサの出力に基づき前記各種データ情報の保全処理を行う実行処理手段と、前記実行処理手段が行う保全処理に使用する記憶手段とを有する構成である。
【0006】本発明の情報処理装置は、前記地震感知センサが地震の振動を検出し電気信号として出力する震度リード部と、前記震度リード部の出力する電気信号から地震の振動の大きさを感知し複数の地震震度の中から選択する予め定める警報を発すべき値の認知震度を越えていることを識別する振動感知部と、前記振動感知部が前記認知震度を越えていることを識別すると地震感知信号を出力する感知信号出力部とを備えてもよい。
【0007】本発明の情報処理装置は、前記振動感知部内に前記認知震度を外部から設定し記憶する認知震度設定部を含んでもよい。
【0008】本発明の情報処理装置は、前記実行処理手段が行う保全処理の内容が複数の地震震度の中から選択された値の認知震度ごとに異なる処理内容を持ってもよい。
【0009】本発明の情報処理装置は、前記実行処理手段が行う保全処理の内容として実行ファイルの退避と装置の電源を遮断する機能を有してもよい。

【００１０】本発明の情報処理装置は、前記実行処理手段が行う実行ファイルの退避および装置の立ち上げごとに前記実行処理手段が同時に保全する前記認知震度に対し誤り検出符号の計算および比較チェックを行うことにより、震度感知センサに設定されるデータの保証を行ってもよい。

【００１１】［作用］本発明は情報処理装置内に地震感知センサ（地震（振動）感知部、認知震度設定部（複数設定も可能）、感知した震度をＩ／Ｏによりリードできるリード部、感知を通知する信号を発生させるハードウェア）、Ｉ／Ｏ制御により装置の電源断を行うハードウェアと、記憶部には、センサに認知震度値を設定（複数設定も可能例えば設定レベル１、設定レベル２等）する処理（認知震度設定処理）、設定した認知震度を格納するエリア（認知震度格納エリア）、認知震度設定処理の設定レベルにより実行される各退避処理（例えば、設定レベル１で震度を感知した場合には、各アプリケーション（ＡＰ）にて作成中のファイルの保存のみを行う処理や設定レベル２で震度を感知した場合、レベル１の退避処理および、システム（各ＡＰ、ＯＳ）の終了を行う処理）、情報処理装置の電源断処理、誤り検出符号エリア（認知震度格納エリアが誤り検出符号計算処理により計算された値を格納するエリア）により、装置が動作中、地震感知センサが認知震度設定処理により設定された震度以上の強い衝撃や振動を感知した場合、感知信号出力部からの信号を感知信号受信部に通知することで、割り込みが発生する。割り込み処理内では、地震感知センサの感知した震度をＩ／Ｏによりリードし、感知した震度に応じたシステムの退避処理に制御が移り、各退避処理では、設定レベルに応じた退避処理を実行することで、地震が発生した場合の情報処理装置のＡＰ作成ファイルやシステム（ＯＳ、ＡＰ等）の保護を行う。

【００１２】利用者が、認知震度設定処理により認知震度値を変更した場合には、記憶部内にある認知震度格納エリアの設定値を更新するとともに、認知震度格納エリアが誤り検出符号計算処理により計算され、算出された誤り検出符号を格納する。また、装置の立ち上げごとに、記憶部内の誤り検出符号計算処理が実行され、認知震度格納エリアの誤り検出符号と立ち上げ時の計算結果とを比較チェックすることで、装置起動時の記憶部内の認知震度格納エリアのデータの保証を行うことができる。

【００１３】

【発明の実施の形態】次に、本発明の実施の形態について図面を参照して説明する。

【００１４】図１は本発明の第１の実施の形態を示すブロック図である。

【００１５】本発明は、情報処理装置３０内に、複数の地震震度を識別する地震感知センサ１と、地震感知センサ１の出力に基づき各種データ情報の保全処理を行う処理装置２と、地震感知センサ１から送られる信号を受信する感知信号受信部７と、処理装置２から送られる電源断の信号を受信する電源断Ｉ／Ｏ部８と、装置の電源である電源部９と、処理装置２が行う保全処理に使用するエリアを持つ記憶部１０とを備えている。

【００１６】地震感知センサ１は、地震の振動を検出し電気信号として出力する震度リード部３と、震度リード部３の出力する電気信号から地震の振動の大きさを感知し警報を発すべき値である認知震度を越えていることを識別する振動感知部４と、振動感知部４内には複数の地震震度の中から任意の個数を選択して警報を発すべき認知震度として外部から設定した値を記憶する認知震度設定部５と、振動感知部４が認知震度を越えていることを識別すると通知を受け地震感知信号を出力する感知信号出力部６とを備えている。

【００１７】また、記憶部１０には、動作中のＡＰ作成ファイルやＯＳ、ＡＰ等を格納する格納ファイルであるＡＰ作成ファイル（ＯＳ、ＡＰ等格納エリア）１１と、認知震度設定処理や認知震度設定値の設定レベルにより実行される各設定レベルごとの退避処理によってデータを一時退避させる退避処理エリア１２と、排他的論理和等のデータ保証を行う計算値を格納する誤り検出符号エリア１３と、認知震度設定処理での設定震度値データを格納する認知震度格納エリア１５と、認知震度格納エリア１５に格納する設定震度値データに対する誤り検出符号計算処理手段を格納する誤り検出符号計算処理エリア１４とを備えている。

【００１８】さらに、処理装置２には、処理装置２内の各部の実行処理を司るシステム（ＯＳ・ＡＰ）実行処理および認知震度実行処理１６と、地震感知センサ１内の認知震度設定部５に認知震度値を設定（複数設定も可能例えば設定レベル１、設定レベル２等）する認知震度設定処理部１７と、地震感知センサ１が感知した震度をＩ／Ｏによりリードする処理を行う感知震度Ｉ／Ｏリード処理部１８と、感知信号受信部７により発生した割り込みを実行する処理感知信号受信処理部１９と、認知震度設定処理部１７の設定レベルにより実行される各退避処理（例えば、設定レベル１で震度を感知した場合には、各アプリケーション（ＡＰ）にて作成中のファイルの保存のみの退避を行う退避処理Ａ２１や、設定レベル２で震度を感知した場合、レベル１の退避処理および、システム（各ＡＰ、ＯＳ）の終了を行う退避処理Ｂ２２）を実行する退避処理実行処理部２０と、退避処理が実行された場合、情報処理装置３０の電源断Ｉ／Ｏ部８により電源部９の電源断を実行する処理を発行する電源断Ｉ／Ｏ発行処理部２３とを備えている。

【００１９】次に動作について説明する。

【００２０】図２は本発明の地震感知センサへの認知震度の設定処理の流れ図である。説明には図１の名称および符号を使用する。

【００２１】図２分図（Ａ）は、システム（ＯＳ、Ａ
Ｐ）実行処理１６が動作中、利用者が設定震度の変更を
行う場合を示している。まず、ステップ（以下Ｓと記
す）１で認知震度設定の変更を実施するか否かを判別
し、実施する場合は、Ｓ２で認知震度設定処理部１７を
起動して認知震度設定処理を実行し、Ｓ３で利用者が設
定震度の設定変更を行うと、Ｓ４で記憶部１０内の認知
震度格納エリア１５に設定値が格納される。その後、設
定処理の終了時に、Ｓ５で認知震度設定値の誤り検出符
号エリアに格納されるべき計算値が誤り検出符号計算処
理エリア１４に格納されている誤り検出符号計算処理手
段により計算され、Ｓ６で計算値が誤り検出符号１３に
格納される。

【００２２】また、図２分図（Ｂ）は、情報処理装置３
０の電源立ち上げを行った場合の動作を示している。ま
ず、Ｓ７で電源立ち上げを行うと、Ｓ８で記憶部１０内
の認知震度設定値の誤り検出符号計算処理が実行され、
その計算値と既に誤り検出符号エリア１３に格納されて
いる値とを比較チェックし、Ｓ１０で比較結果を判別し
正常であった場合には、Ｓ１１で認知震度格納エリア１
５に格納されている設定震度値データの値を認知震度設
定処理部１７により地震感知センサ１の認知震度設定部
５に設定する。また、Ｓ１２の判別結果が異常と判断さ
れた場合には、Ｓ１２で認知震度格納エリア１５のデー
タに異常が発生したことを利用者に通知し、Ｓ１３で認
知震度設定処理部１７により再設定を行う。

【００２３】なお、記憶部１０のＢＵＭ内に退避処理エ
リア１２、誤り検出符号エリア１３、誤り検出符号計算
処理エリア１４、認知震度格納エリア１５を有すること
で、情報処理装置３０の電源立ち上げごとの認知震度比
較チェックおよび設定処理をハードディスクを必要とす
ることなく処理することができる。

【００２４】次に、システム（ＯＳ・ＡＰ）実行処理お
よび認知震度実行処理１６の動作時に地震（振動）が発
生した場合の地震感知から電源部の電源断までの動作に
ついて説明する。

【００２５】システムが動作中、地震感知センサ１の振
動感知部４が認知震度設定部５に設定された震度以上の
振動を感知した場合、感知信号出力部６から感知信号受
信部７に感知信号が伝達され、地震（振動）があったこ
とを感知信号受信処理部１９に割り込み等により通知す
る。感知信号受信処理部１９が動作すると、次に感知震
度Ｉ／Ｏリード処理部１８に制御が移り、地震感知セン
サ１内の震度リード部３から発生した震度データをリー
ドする。リードした地震震度から、各設定震度値（レベ
ル）にあった退避処理実行部２０に制御が移り、退避処
理Ａ２１（電源断までは行わない設定レベル）の場合に
はＡＰ作成ファイルの待避のみを行い、退避処理Ｂ２２
（退避処理Ａ２１およびシステム電源断を行う必要があ
る設定レベル）の場合には、退避処理Ａ２１およびＯ

Ｓ、ＡＰ終了処理を実行した後、電源断Ｉ／Ｏ発行処理
部２３により、電源断Ｉ／Ｏ８へのＩ／Ｏ発行が行わ
れ、電源部９の電源断を行うこととなる。

【００２６】

【発明の効果】以上説明したように、本発明は、複数の
地震震度を識別する地震感知センサと、地震感知センサ
の出力に基づき各種データ情報の保全処理を行う実行処
理手段と、実行処理手段が行う保全処理に使用する記憶
手段とを備え、さらに地震感知センサが地震の振動を検
出し電気信号として出力する震度リード部と、震度リー
ド部の出力する電気信号から地震の振動の大きさを感知
し複数の地震震度の中から選択する予め定める警報を発
すべき値の認知震度を越えていることを識別する振動感
知部と、振動感知部が認知震度を越えていることを識別
すると地震感知信号を出力する感知信号出力部とを備え
ることにより、認知震度設定処理による複数の震度設定
が可能となり、震度リード部からの発生震度のリードを
行うことで、各震度（設定レベル）にあった退避処理を
行うことができるという効果が有る。また、認知震度格
納エリアの設定値が認知震度設定処理により設定変更さ
れる都度、誤り検出符号も計算されて変更されるため、
情報処理装置立ち上げごとに認知震度格納エリアの誤り
検出符号計算処理により計算された値と比較チェックす
ることにより、地震感度センサに設定される設定値のデ
ータ保証ができるという効果も有る。

【図面の簡単な説明】

【図１】本発明の第１の実施の形態を示すブロック図で
ある。
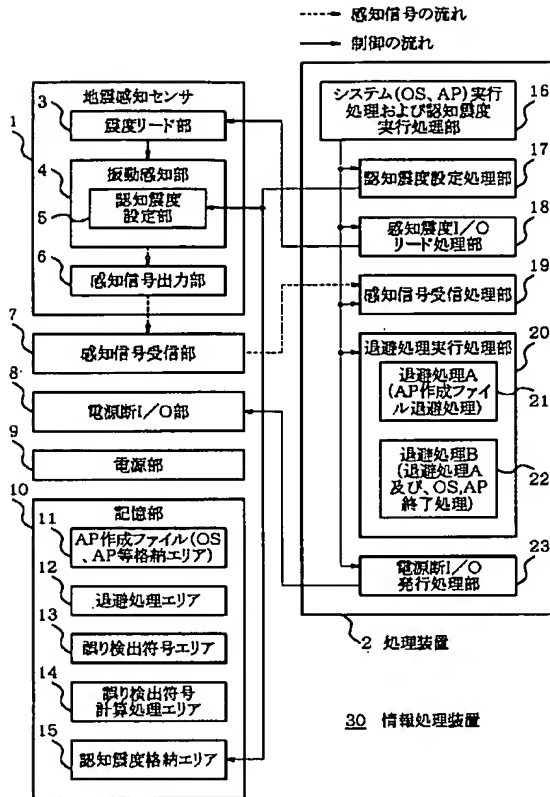
【図２】本発明の地震感知センサへの認知震度の設定処
理の流れ図である。

【符号の説明】

１	地震感知センサ
２	処理装置
３	震度リード部
４	振動感知部
５	認知震度設定部
６	感知信号出力部
７	感知信号受信部
８	電源断Ｉ／Ｏ部
９	電源部
１０	記憶部
１１	ＡＰ作成ファイル（ＯＳ、ＡＰ等格納エリア）
１２	退避処理エリア
１３	誤り検出符号エリア
１４	誤り検出符号計算処理エリア
１５	認知震度格納エリア
１６	システム（ＯＳ・ＡＰ）実行処理および認知震度実行処理
１７	認知震度設定処理部
１８	感知震度Ｉ／Ｏリード処理部

19	処理感知信号受信処理部	22	退避処理B
20	退避処理実行処理部	23	電源断I／O発行処理部
21	退避処理A	30	情報処理装置

【図1】

【図2】